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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,082	01/05/2005	Takashi Fukuda	50340-181	2751
20277 7590 04/03/2009 MCDERMOTT WILL & EMERY LLP 600 13TH STREET, N.W. WASHINGTON, DC 20005-3096				
EXAMINER				
HODGE, ROBERT W				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/520,082

**Applicant(s)**

FUKUDA, TAKASHI

**Examiner**

ROBERT HODGE

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 2/9/09 have been fully considered but they are not persuasive. Applicants continue to traverse the restriction requirement filed 8/18/08 and state that it is improper because no lack of unity exists in the instant claims and further request that a copy of EP 1036996 be made of record. A copy of EP 1036996 is being provided with this office communication. However it should be noted that EP 1036996 has not been used in a grounds of rejection it is just being made of record. Regarding the lack of unity that applicants continue to traverse, since claims 1 and 14 have been rejected with the same prior art reference, the Bonville reference, unity is clearly lacking in the instant application and technically a lack of unity could have been made between claims 1 and 14 since neither claim has a special technical feature that is not known in the art. Therefore the restriction requirement dated 8/18/08 showing that there is lack of unity in the instant application is still deemed to be proper and is still made **FINAL**.

Regarding the prior art rejections applicants state that none of the prior art references teach the functional limitations of the instant claims and cite *In re Bernhart* for support that the functional limitations of the claims supposedly structurally define over the prior art of record. Applicants are directed to MPEP 2106.01 (I), wherein the last paragraph of said section identifies how applications are to be examined when they contain program limitations in the claims. The last sentence states "\*\*\* When a computer program is recited in conjunction with a physical structure, such as a computer memory, USPTO personnel should treat the claim as a product claim. \*\*\*".

The instant claims are drawn to a fuel cell power plant having certain structural features (i.e. physical structure) and a program that utilizes the structural features. Therefore the instant claims meet the above requirements of the last line of MPEP 2106.01 (I) and the instant claims are treated as product claims. As such product claims fall under MPEP 2114 and the prior art reference as was set forth in the grounds of rejection is capable of the functional recitations of the instant claims and therefore the prior art rejections will be maintained.

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-8, 11 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 6,248,462 hereinafter Bonville.

Bonville teaches a fuel cell power plant having an antifreeze mechanism which comprises a heater (column 7, line 58 - column 8, line 19), a sensor which detects a parameter for estimating freezing probability of water inside the fuel cell power plant (i.e. temperature sensor 47) and a programmable controller (column 8, lines 20-41). Bonville also teaches a water recovery mechanism (column 5, line 16 – column 6, line 12 & column 7, lines 18-57). It is noted that claims 1-8 and 11 contain functional limitations and since all of the structure that is necessary to perform the functional limitations as recited in the claims has been found in the prior art, Bonville reads on the claims as recited, see MPEP 2114. Furthermore Bonville does teach many of the

functions of the instant claims to prevent freezing of water in the fuel cell system to prevent damage from occurring to the fuel cell stack. See also column 3, line 50 - column 9, line 25. Regarding the means plus function language in claim 14, as was already stated above all of the structure that is necessary to perform the functional as recited in claim 14 has been found in the prior art and therefore Bonville also reads on claim 14 as recited.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonville as applied to claim 1 above, and further in view of U.S. Patent No. 6,242,119 hereinafter Komura.

Bonville further teaches that the fuel cell comprises an anode, a cathode, a condenser, a water tank and a humidifier (column 4, line 64 – column 5, line 49 and column 7, lines 18-57).

Bonville does not teach a drain valve to drain the excess water from the fuel cell system but does teach that it is necessary to remove any excess water from the fuel cell system (see citations above).

Komura teaches a fuel cell system comprising an anode, a cathode, a condenser and a water tank with a drain valve 22 (column 2, line 35 – column 3, line 45).

At the time of the invention it would have been obvious to one having ordinary skill in the art to provide a drain valve in Bonville as taught by Komura in order to provide the ability to remove excess water from the fuel cell system to prevent flooding of the fuel cell system (Bonville column 5, lines 18-49) as well as to prevent freezing of the water in the fuel cell when the system is stopped to thereby prevent damage to the fuel cell from the freezing (Komura Abstract).

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonville as applied to claim 1 above, and further in view of U.S. Pre-Grant Publication No. 2003/0003334 hereinafter Yoshizawa.

Bonville does not teach a temperature sensor to monitor a temperature outside of the fuel cell system.

Yoshizawa teaches a fuel cell system that comprises an atmospheric temperature sensor 51 that detects an atmospheric temperature outside of the fuel cell system (paragraph [0044]).

At the time of the invention it would have been obvious to one having ordinary skill in the art to provide an atmospheric temperature sensor in Bonville as taught by Yoshizawa in order to monitor the atmospheric temperature outside of the fuel cell system in order to monitor the temperature of the fuel gas and air entering the fuel cell (i.e. inlet temperatures) thereby providing the ability to calculate heat exchange between the temperature inside the fuel cell and the reactants entering the fuel cell thus providing a means to determine whether or not the secondary thermal management loop of Bonville needs to provide further heat to the fuel cell to maintain the fuel cell at

its optimal operating temperature (Bonville column 8, line 4 – column 9, line 25 and Yoshizawa paragraph [0044]).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **ROBERT HODGE** whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Hodge/  
Examiner, Art Unit 1795